Genito-Urinary

Version 5.3

PLAB 1 Keys is for PLAB-1 and UKMLA-AKT (Based on the New MLA Content-Map)

Corrected, Updated, Lighter

With the Most Recent Recalls and the UK Guidelines

ATTENTION: This file will be updated online on our website frequently!

(example: Version 2.3 is more recent than Version 2.2, and so on)

Key 1	**◙ Antibiotic Regimens for Cervicitis:** (According to the recent guidelines). ♦ **Chlamydia** ◙ **1st line** → Doxycycline 100 mg BID for 7 Days. ◙ **2nd line**:

Azithromycin 1-gram PO ▌Followed by 500 mg PO OD for 2 days.

♦ **Neisseria Gonorrhea**: (**C or C**)

◙ Ceftriaxone 1 gm IM (single dose stat). "of choice" Or:

◙ Ciprofloxacin 500 mg PO (Single dose).

◆ **What if the genotypic antimicrobial data indicates susceptibility to ciprofloxacin?**

◆ Then → give [Ciprofloxacin only] ☻

Otherwise "if the antimicrobial susceptibility is unknown prior to treatment" → we treat with a single dose Ceftriaxone 1 gm IM stat.

◙ In PID "Pelvic Inflammatory Disease"

◙ **Outpatient → (OM)**

• Oral **Ofloxacin** + oral **Metronidazole**

or

• Intramuscular **ceftriaxone** + oral **doxycycline** + oral **metronidazole**

	◙ **Inpatient → (CDM)** **Ceftriaxone + Doxycycline + Metronidazole** **(Note, PID antibiotics differ from hospital to another based on the local guidelines).**
Key 2	After **Broad-spectrum antibiotic** course → death of normal vaginal flora → a good chance for the development of **bacterial vaginosis** and/or **vaginal candidiasis**.

Trichomoniasis **(Trichomonas Vaginalis)**	√ Frothy, **yellowish-greenish** *smelly* vaginal discharge. √ Vaginal itching is **common**. √ Strawberry Cervix. √ Vaginal pH: > 4.5 √ signs of vulvovaginitis.	Rx → Oral **Metronidazole**
Bacterial Vaginosis **(Gardnerella Vaginalis)**	√ **Thin**, **grey-white**, **fishy (VERY offensive) smelling** discharge. √ Vaginal itching is **uncommon**. √ Positive Whiff test (Potassium Hydroxide). √ Vaginal pH: > 4.5	Rx → **Metronidazole** + Clindamycin

Vulvovaginal Candidiasis **"Vaginal Thrush"** **(Candida Albicans)**	√ **Thick white** (Cheese-like) odourless (non-offensive) vaginal discharge. √ Vaginal pH: 4-4.5	Rx → **Local** **Clotrimazole** (Anti-fungal)

Note, normal vaginal pH is **3.8 to 4.5**.

To Recap,

♣ **White Thick** discharge, non-offensive discharge

→ Vaginal candidiasis (Vaginal Thrush).

→ Topical clotrimazole.

♣ **Yellow-greenish** offensive discharge + vaginal **itching** ± **Strawberry** Cervix ± pH > 4.5 ± **Vulvovaginitis**

→ Trichomonas Vaginalis (Trichomoniasis).

→ Oral metronidazole.

♣ **Offensive** discharge **Without itching** ± **fishy** smell ± pH > 4.5

→ Bacterial Vaginosis (Gardnerella Vaginalis).

	→ Oral metronidazole. **Example** A pregnant woman has taken antibiotic for her dental abscess. On the 3rd day, she developed **thick white** vaginal discharge. ◙ The likely diagnosis → **Vulvovaginal Candidiasis** "Vaginal Thrush". ◙ The Likely causative organism → **Candida Albicans**.
Key 3	**Scenario 1** A young lady presents with **offensive vaginal discharge**. She is sexually active with a single partner. Her vaginal **pH is 5.5**. High vaginal swabs are taken for culture. The likely organism → **Gardnerella Vaginalis. (Bacterial Vaginosis)** Both **Bacterial Vaginosis (Gardnerella Vaginalis)** and **Trichomoniasis (Trichomonas Vaginalis)** can cause offensive vaginal discharge and pH >4.5. **However,** ♦ Bacterial Vaginosis "Gardnerella Vaginalis" is more common.

♦ Trichomoniasis "Trichomonas Vaginalis" has yellow-greenish offensive vaginal discharge + itching.

♦ Both are treated by **Metronidazole**.

[***All sexual partners need to be treated and followed up as well***]

Note:

Although Bacterial Vaginosis "Gardnerella Vaginalis" is not a sexually-transmitted disease, it is the most common cause of abnormal vaginal discharge in ♀ in childbearing age.

◙ **Amsel's Criteria**: **3 of 4 criteria** are diagnostic for **Bacterial Vaginosis**:

1) Homogenous grey-white discharge.
2) When adding Potassium Hydroxide 10% (KOH) to the discharge → fishy smell (Whiff test).
3) "Clue Cells" under microscopy.
4) Vaginal pH > 4.5

Scenario 2

A 24 YO woman presents with foul-smelling vaginal discharge and vaginal itching. She feels sore in her vagina. She has a new sexual male partner. O/E, there are signs of vulvovaginitis. The vaginal pH is 5.3.

What is the most likely causative organism?

We have 2 likely options: Gardnerella vaginalis and Trichomonas vaginalis.

They both can cause similar presentations.

However,

Vaginal itching and signs of **Vulvovaginitis** are more common with

→ **Trichomonas vaginalis**. √

Key 4

HPV (Human Papilloma Virus)

◙ **Genital warts**: Sexually transmitted painless growth- like lesions

"benign epithelia skin tumours".

◙ HPV **6** and **11** → Responsible for **Genital warts (benign Cauliflower like-growths).**

◙ HPV **16** and **18** → Responsible for most **cervical cancers** in the UK.

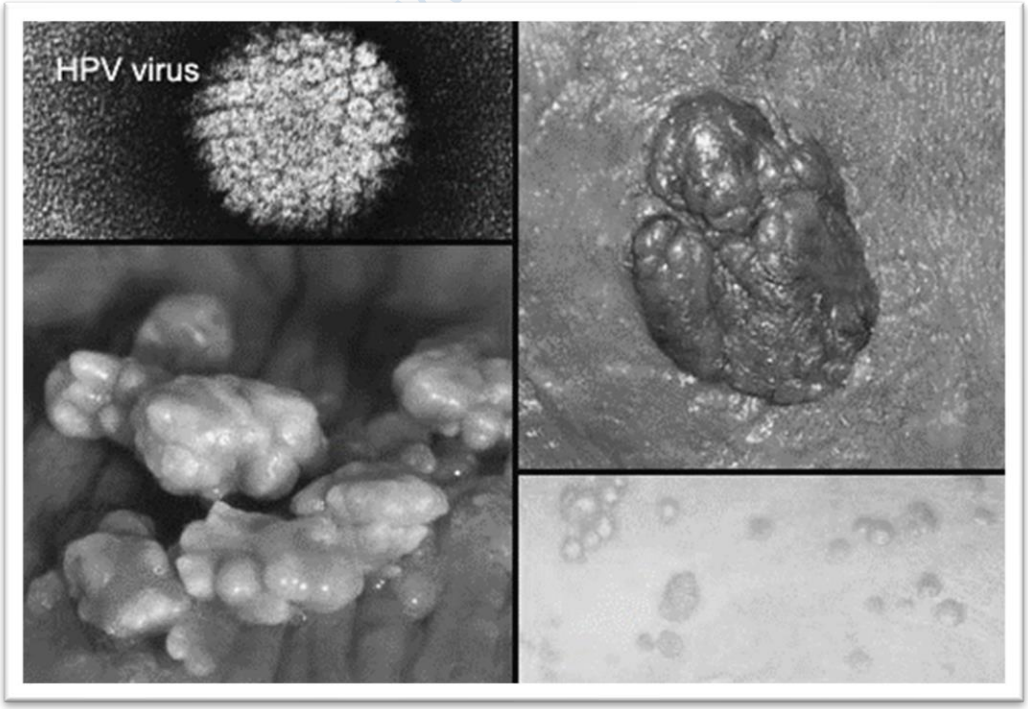
◙ Prevention and Treatment of Genital Warts.

√ **Gardasil** → **Not for treatment**, but for prevention.

(**A vaccine to protect against HPV 6, 11, 16 and 18**). If genital warts have developed, Gardasil is of no benefit.

√ **Ablation** (**Cryotherapy**).

√ **30%** of cases have **spontaneous** resolution in 6 months.



	Example A 20 YO ♀ with Hx of travel several weeks ago present with cauliflower like growths of varying size on her vulva. She wants a treatment. The likely Dx → **Genital warts** (HPV 6 and 11) The possible treatment option → **Cryotherapy**.
Key 5	**Genital Ulcers (♂, ♀)** ◙ **Multiple**, **Painful** Ulcers ± Dysuria → **HSV** "**Genital Herpes**". → give **Acyclovir** ◙ **S**ingle, **Not**-painful ulcer → **Syphilis**. "*Syphilis painless*". ◙ Single, Painful ulcer → **Hemophilus Ducreyi** (Chancroid). ("I **Do cry**" from Pain and being Single) **Caution**, Hemophilus Ducreyi can sometimes present with MULTIPLE and PAINFUL ulcers similar to that of Herpes Simplex Virus (HSV). To differentiate → Viral Culture (obtained from the ulcer base) or PCR.

Example,

A 37 YO ♀ presents with numerous, painful blisters and sores on her vulva with flu-like illness and mild fever. She is afraid to go urinate as the pain is so severe.

♦ The likely Dx → **Genital Herpes** (**HSV**).

♦ The appropriate Rx → **Aciclovir** (Anti-viral).

Example,

A 25 YO ♂ presents complaining of Dysuria and 3 Painful ulcers on his penis. He is sexually active.

♦ The likely Dx → **Genital Herpes** (**HSV**).

♦ The appropriate Rx → **Aciclovir** (Anti-viral).

In short:

- Painless multiple → **HPV** (6 and 11).
- Painful multiple → **HSV** (give analgesics and Aciclovir).
- Painless single (Chancre) → **Syphilis** (Treponema Pallidum).
- Painful single (Chancroid) → **H. Ducreyi** (can be multiple, painful)

Key 6

Scenario

A 30 YO ♀ presents with a **very strong foul-smelling vaginal discharge**. Which of these organisms is likely responsible?

(**Chlamydia** / **N. Gonorrhea** / **Gardnerella** / or **All of them**)?

The answer is → **Gardnerella**.

Do not get tricked!

The vaginal discharge in **Chlamydia** and **N. Gonorrhea** is **NOT** usually foul-smelling.

The important organisms that present with Offensive Vaginal Discharge are:

• Trichomonas Vaginalis (Trichomoniasis)

→ Frothy, Yellow-greenish, Offensive ± Strawberry Cervix and inflamed vulva "vulvovaginitis" ± Vaginal Itching

• Gardnerella Vaginalis (Bacterial Vaginosis)

→ Thin, grey-white, Offensive (fishy) smell. ± clue cells

√ Both are treated with → Oral Metronidazole.

√ pH in both is > 4.5

Key 7

Scenario

29 YO ♀ presents complaining of a few-weeks vaginal discharge that is frothy, yellow, bad-smelling and with mild vaginal itching. She is sexually active with 2 regular partners. Vaginal pH is 4.8. No pelvic or abdominal pain. Her vulva looks slightly inflamed.

The likely Dx → **Trichomoniasis** (The Organism is **Trichomonas Vaginalis**).

The appropriate treatment → **Metronidazole**.

Dx → **Observing motile flagellates on microscopy**.

Key 8

◙ Chlamydia in Males

→ **Urethritis** (**Dysuria** + **Urethral Discharge**).

√ **Important**

The major complication of untreated chlamydia "*and N. Gonorrhea*" in **males** is: → (**Epididymo-Orchitis**) or (**Epididymitis**).

→ **Unilateral Testicular Pain**.

The major complication of untreated chlamydia "*and N. Gonorrhea*" in **Females** is: → (**Salpingitis**).

Note:

	Complications of Syphilis include → Aortic Aneurysm, Granulomatous lesions of skin and bones (Tertiary stage syphilis) ◙ Note: Chlamydial infection is the most common Sexually Transmitted Infection "STI" in the UK. It is caused by Chlamydia Trachomatis.
Key 9	◙ **An 18 YO ♀ with new sexual partner presents with:** **Vaginal Discharge, Post-coital bleeding, Red and Inflamed vulva and cervix, tender pelvis but non-tender abdomen.** √ The likely Dx → **Chlamydial Cervicitis**. √ Rx? → ◙ **1st line** → **Doxycycline** 100 mg BID for 7 Days. ◙ **Another line**: **Azithromycin** 1-gram PO ▌Followed by 500 mg PO OD for 2 days. √ The likely cause in this case? → infection due to the **new partner**. **♣ Why not Cervical Ectropion?** Cervical Ectropion presents only with post-coital bleeding. No other problems. Resolves spontaneously but if treatment is required → Cauterising with silver nitrate.

	◙ **A 22 YO ♀ presents with Vaginal Discharge, Post-coital bleeding, intermenstrual bleeding. A vulvovaginal swab tested +ve for Neisseria Gonorrhea.** √ Treatment? → ♦ **Neisseria Gonorrhea**: (**C or C**) ◙ **Ceftriaxone 1 gm IM (single dose stat)**. "of choice" Or: ◙ Ciprofloxacin 500 mg PO (Single dose).
Key 10	Anal "**Anogenital**" **warts** are caused by → **Human Papilloma Virus** (HPV 6 and 11) in both ♂ and ♀.
Key 11	◙ **A 20 YO ♀ with a new sexual partner presents with:** **Increasing Vaginal Discharge that is yellow-greenish.** The single best Investigation → **Endocervical and High Vaginal Swab**.

√ While **self-collected vulvovaginal swab** is good for **chlamydia**, **Endocervical and High vaginal swab** can detect all possible organisms such as **chlamydia**, **N. Gonorrhea** and **Trichomonas Vaginalis**.

√ Trichomonas Vaginalis needs high vaginal swab and can be diagnosed by seeing the motile organisms under the microscope.

In short:

◘ **Suspected case (asymptomatic)**

→ Self-collected vulvovaginal swab

i.e. [Screening for Chlamydia and N. Gonorrhea].

◘ **Signs and symptoms of Chlamydia/ N. Gonorrhea**

→ Endocervical swab.

◘ **Suspected Trichomonas Vaginalis**

→ High vaginal swab.

◘ **To cover all possibilities at once**

→ Endocervical swab + High vaginal swab.

Important note:

If the question asks specifically about the most sensitive (screening) test for Chlamydia and Gonorrhea, the answer should be

	→ *Self-collected vulvovaginal swab for NAAT*.
Key 12	**Multiple** + **Painful** genital **Ulcers** → suspect **Genital Herpes** (**HSV**) ◙ **Investigations of HSV:** √ First Line → **NAAT Testing** = Nucleic acid amplification tests. "It is now superior to viral culture and PCR". √ Other test → **Viral Culture of the lesion + DNA detection using PCR** "Polymerase Chain Reaction". √ If Negative and the ulcers are **recurrent**/ atypical? → **Anti-HSV antibody**. ◙ **Rx of HSV** → **oral Aciclovir**
Key 13	**Rash in both Palms AND Soles occurs in 3 conditions:** 1) Hand, foot and mouth disease → **Coxsackie Virus**. 2) Rocky Mountain Spotted Fever → Tick (**Rickettsia**). 3) Secondary Syphilis → **Treponema Pallidum**.

Key 14

Syphilis

Syphilis is caused by → **Treponema Pallidum**

Primary Stage:

Only **Chancre** (**Single Painless** Genital **Ulcer** at the site of sexual contact).

Secondary Stage (6 weeks after chancre appears):

√ Fever, lymphadenopathy, malaise (**systemic symptoms**).

√ **Rash** on Soles, Palms and face.

√ **Condyloma Lata**

Tertiary Stage:

√ **Gummas** (Granulomatous lesions commonly affect skin and bones).

√ **Cardiovascular** Syphilis (ascending aortic aneurysms / aortic regurgitation).

√ **Neurological** Syphilis (Dementia / tabes dorsalis).

◙ Syphilis Investigations in Short (Commonly Asked)

√ **If the penile ulcer is still present**

→ Swab the penile ulcer for Dark field microscopy (if in Genitourinary clinic)

or swab the penile ulcer for PCR (if the patient is in a GP clinic).

√ **If the penile ulcer has healed but the mouth ulcers are present**

→ Swab of the mouth ulcers for PCR.

Bear in in mind that swabs of oral lesion cannot be tested under dark field microscopy. If there no (swab of oral ulcers for PCR) in the options, pick syphilis serology.

√ **If both penile and mouth ulcers have healed**

→ Serology for syphilis.

◙ Management of Syphilis

√ **First-line** → intramuscular benzathine **penicillin**.

√ **alternatives** (e.g., **if penicillin-allergic**) → doxycycline.

Example

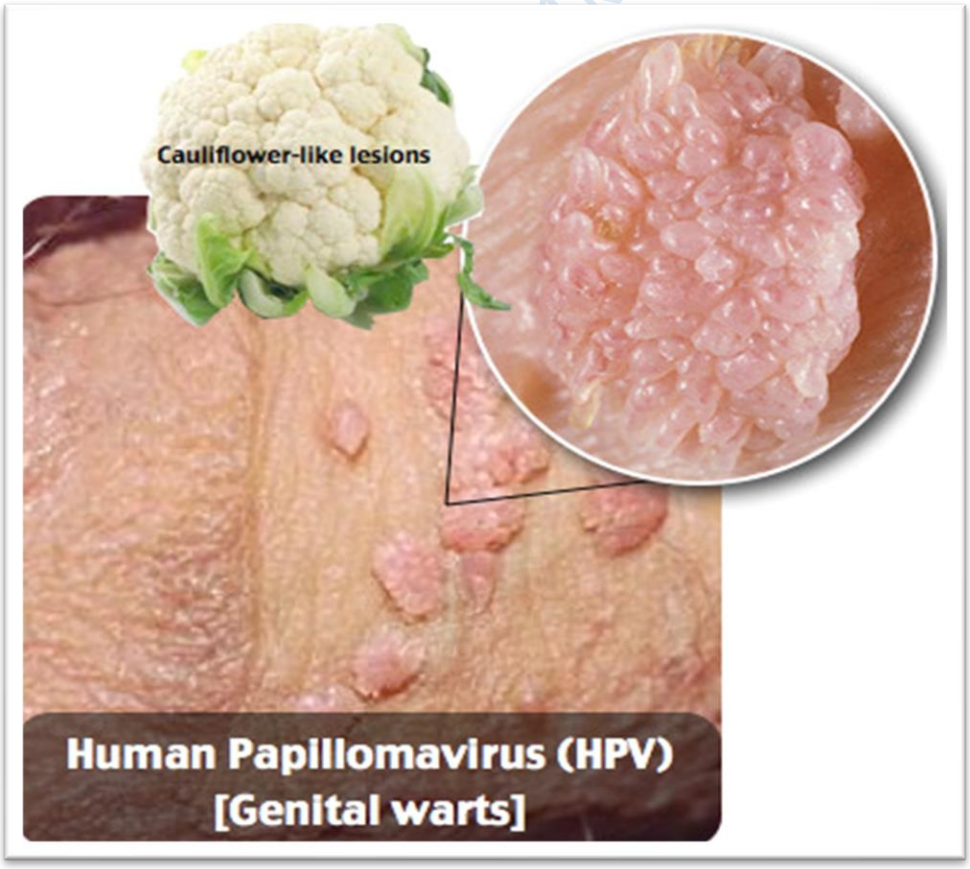
30 YO ♂ presents with maculopapular rash on his palms, soles and mouth. He had a penile ulcer 6 weeks ago that is now healed.

Dx → **Secondary Syphilis**.

Organism → **Treponema Pallidum**.

	Example 28 YO ♂ who is homosexual presents with urethral discharge. He has had a painless penile ulcer that healed a few weeks ago. ◙ Dx → **Syphilis**. ◙ **Investigations**: since the penile ulcer has healed: √ If there are still oral ulcers → Oral swabs for PCR. (Not for dark microscopy)! √ If no oral ulcers, or oral swab for PCR is not given → Serology for syphilis.
Key 15	◙ If a **man** has a "**Receptive**" **anal intercourse** → **Rectal swab** for screening for Chlamydia/ N. Gonorrhea "NAAT" is needed. *NAAT: Nucleic-Acid Amplification Test for STDs* ◙ If a **man** has a "**Penile sexual contact**" = "**Insertive**" → **Urethral Swab** + **First void** "first 20 ml of urine" should be sent for culture and microscopy. **In other words,** √ During anal sex, the partner **inserting** the penis is called the "**insertive**" partner (or **top**) → **Urethral Swab** is needed + First Void Urine Sample

	√ The partner **receiving** the penis is called the "**receptive**" partner (or bottom) → **Rectal Swab** is needed. **Receptive anal sex** is much riskier for getting HIV. Screening Tests for → HIV, Hepatitis B, Chlamydia and N. Gonorrhea are needed.
Key 16	**Painless ulcer on genitalia, the organism** → **treponema pallidum** (syphilis) ◙ **Multiple**, **Painful** Ulcers ± Dysuria → **HSV** "**Genital Herpes**". → give **Acyclovir** ◙ **S**ingle, **Not**-painful ulcer → **Syphilis**. "*Syphilis painless*" ◙ Single, Painful ulcer → **Hemophilus Ducreyi** (Chancroid). ("I **Do cry**" from Pain and being Single)
Key 17	**A Pregnant woman presents with UTI.**

	Rx → **Cefalexin.**
Key 18	◙ **Anal warts. The likely organism → HPV** ◙ **Genital warts (benign, painless Cauliflower like-growths)** → **HPV (Human papilloma virus)** ◙ Painless Papules/ growths on genitalia → **HPV** 

Key 19	♣ **Yellow-greenish** offensive discharge + vaginal **itching** ± **Strawberry** Cervix ± pH > 4.5 → Trichomonas Vaginalis (Trichomoniasis). Rx → Metronidazole. √ ♣ **Offensive** discharge **Without itching** ± **fishy** smell ± pH > 4.5 → Bacterial Vaginosis (Gardnerella Vaginalis). Rx → Metronidazole. √
Key 20	**A 20 YO ♀ with new sexual partner presents with:** **Increasing Vaginal Discharge that is yellow-greenish.** The single best Investigation → **Endocervical and High Vaginal Swab**. √ While **self-collected vulvovaginal swab** is good for detecting **chlamydia**, **Endocervical and High vaginal swab** can detect all possible organisms such as **chlamydia**, **N. Gonorrhea** and **Trichomonas Vaginalis**.

	√ Trichomonas Vaginalis needs high vaginal swab and can be diagnosed by seeing the motile organism under the microscope.
Key 21	♣ **Yellow-greenish** offensive discharge + vaginal **itching** ± **Strawberry** Cervix ± pH > 4.5 → Trichomonas Vaginalis (Trichomoniasis).
Key 22	◙ The major complication of untreated chlamydia "*and N. Gonorrhea*" in **males** is: → (**Epididymo-Orchitis**) or (**Epididymitis**). → **Unilateral Testicular Pain**. ◙ The major complication of untreated chlamydia "*and N. Gonorrhea*" in **Females** is: → (**Salpingitis**).
Key 23	◙ If a **man** has a "**Receptive**" **anal intercourse** → **Rectal swab** for screening for Chlamydia/ N. Gonorrhea "NAAT" is needed. *NAAT: Nucleic-Acid Amplification Test for STDs* ◙ If a **man** has a "**Penile sexual contact**" = "**Insertive**" → **Urethral Swab** + **First void** "first 20 ml of urine" should be sent for culture and microscopy. ***Both had been asked in recent exams.***

	In other words, √ During anal sex, the partner **inserting** the penis is called the "**insertive**" partner (or **top**) → **Urethral Swab** is needed + First Void Urine Sample √ The partner **receiving** the penis is called the "**receptive**" partner (or bottom) → **Rectal Swab** is needed. **Receptive anal sex** is much riskier for getting HIV. Screening Tests for → HIV, Hepatitis B, Chlamydia and N. Gonorrhea are needed.
Key 24	**Genital Lesions** ◙ **Multiple**, **Painful** Ulcers ± Dysuria → **HSV** "**Genital Herpes**". → give **Acyclovir** ◙ **S**ingle, **Not**-painful ulcer → **Syphilis**. "*Syphilis painless, chancre*". ◙ Painless Papules on genitalia → **Human papilloma virus.** ◙ Single, Painful ulcer → **Hemophilus Ducreyi** (Chancroid). ("I **Do cry**" from **Pain** and from being **Single**)

	Caution, Hemophilus Ducreyi can sometimes present with MULTIPLE and PAINFUL ulcers similar to that of Herpes Simplex Virus (HSV). To differentiate → Viral Culture (obtained from the ulcer base) or PCR.
Key 25	◙ **An 18 YO ♀ with new sexual partner presents with:** **Vaginal Discharge, Post-coital bleeding, Red and Inflamed vulva and cervix, tender pelvis but non-tender abdomen.** √ The likely Dx → **Chlamydial Cervicitis**. √ Rx? → ◙ **1st line** → Doxycycline 100 mg BID for 7 Days. ◙ **Another line**: Azithromycin 1-gram PO ▌Followed by 500 mg PO OD for 2 days. (According to the recent guidelines). **Note:** In pregnancy → avoid doxycycline, ciprofloxacin, and ofloxacin. (X) On the other hand, → **Azithromycin** is safe in pregnancy.

Key 26

For the past 3 days, a 30-year-old man has been having penile pain when he urinates. He is otherwise fit and well. There are four tender ulcers on his penile glans. The ulcer is 2mm in diameter and indurated. What is the most likely diagnosis?

A. Bechet disease

B. Chlamydia infection

C. Gonorrhea infection

D. **Herpes simplex infection**

E. Primary syphilitic infection

Genital Ulcers (♂, ♀)

◙ **Multiple**, **Painful** Ulcers ± Dysuria → **HSV** "**Genital Herpes**".

→ give **Acyclovir**

◙ **S**ingle, **Not**-painful ulcer → **Syphilis**. "*Syphilis painless*"

◙ Single, Painful ulcer → **Hemophilus Ducreyi** (Chancroid). ("I **Do cry**" from Pain and being Single).

Although **Hemophilus Ducreyi** usually presents with Single Painful ulcer, it can sometimes present with MULTIPLE and PAINFUL ulcers similar to that of **Herpes Simplex Virus** (**HSV**).

To differentiate → Viral Culture (obtained from the ulcer base) or PCR "better".

	Investigations of HSV: √ First Line → **NAAT Testing**. √ Other test → **Viral Culture + DNA detection using PCR** "Polymerase Chain Reaction". √ If Negative and the ulcers are recurrent/ atypical? → **Anti-HSV antibody**. So, careful, Anti-HSV antibody is usually **not** the first line!
Key 27	**A patient who has maculopapular rash in his palms and trunk for the past 9 days. He had mouth ulcers for one month and healed now, and a painless penile ulcer that has healed for the past one week. What is the most appropriate investigation?** a. Treponema PCR b. **Serology for syphilis** c. Dark microscopy d. Swab of the mouth ulcer for PCR e. Treponema specific and non-specific antibody Single Painless → Syphilis Take care that penile ulcers and also (mouth ulcers) have healed.

So, Dark microscopy for penile ulcer is wrong.

Also, Swab of mouth ulcers for PCR is also wrong.

The remaining option is serology for syphilis.

Rash in both Palms AND Soles occurs in 3 conditions:

√ Hand, foot and mouth disease → **Coxsackie Virus**.

√ Rocky Mountain Spotted Fever → Tick (**Rickettsia**).

√ Secondary Syphilis → **Treponema Pallidum**.

Important Notes on Syphilis Investigations:

√ **If the penile ulcer is still present**

→ Swab the penile ulcer for Dark field microscopy (if in Genitourinary clinic)

or swab the penile ulcer for PCR (if the patient is in a GP clinic).

√ **If the penile ulcer has healed but the mouth ulcers are present**

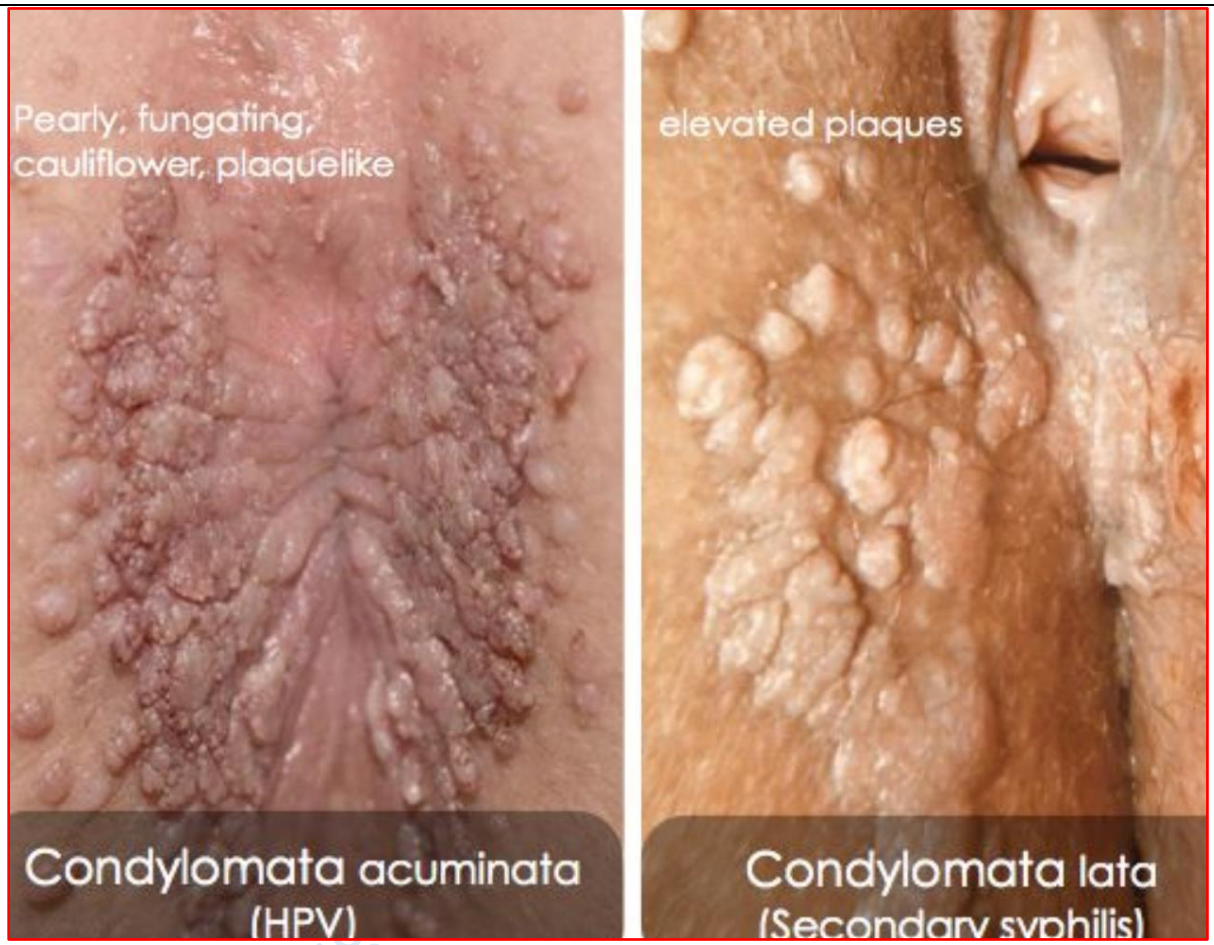
→ Swab of the mouth ulcers for PCR.

Bear in in mind that swabs of oral lesion cannot be tested under dark field microscopy. If there no (swab of oral ulcers for PCR) in the options, pick syphilis serology.

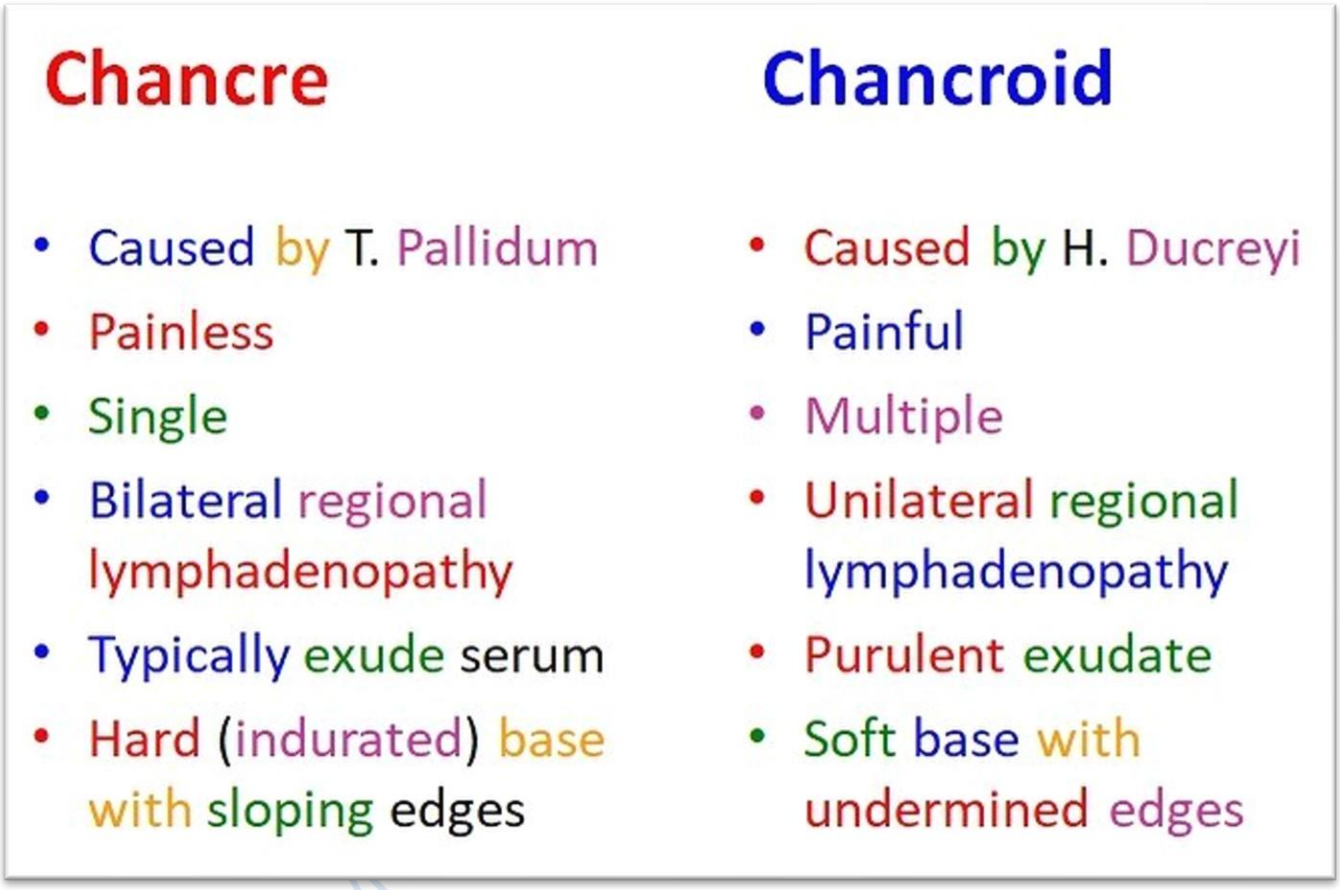
√ **If both penile and mouth ulcers have healed**

→ Serology for syphilis.

Key 28



Condyloma acuminatum	Painless, cauliflower-like or polypoid, skin-colored papules of varying sizes
Condyloma latum	Painless, hypopigmented, firm, moist, flat-topped, smooth, pink-to-reddish papules containing numerous spirochetes

	√ Condyloma Lata → 2ry Syphilis (Treponema Pallidum). **√ Condyloma Acuminata →** Human papilloma virus**.**
Key 29	
Key 30	**Caution**, Hemophilus Ducreyi can sometimes present with MULTIPLE and PAINFUL ulcers similar to that of Herpes Simplex Virus (HSV). To differentiate → Viral Culture (obtained from the ulcer base) or PCR.
Key 31	**The most sensitive test for Chlamydia and Gonorrhea** → **Self-collected vulvovaginal swab for NAAT**

	(NAAT = Nucleic Acid Amplification Test). It is more sensitive than cultures.
Key 32	**A 24 YO woman presents with foul-smelling vaginal discharge and vaginal itching. She feels sore in her vagina. She has a new sexual male partner. O/E, there are signs of vulvovaginitis. The vaginal pH is 5.3.** **What is the most likely causative organism?** We have 2 likely options: Gardnerella vaginalis and Trichomonas vaginalis. They both can cause similar presentations. However, **Vaginal itching** and signs of **Vulvovaginitis** are more common with → **Trichomonas vaginalis**. √
Key 33	**Caution**, Although **Hemophilus Ducreyi** usually presents with Single Painful ulcer, it can sometimes present with MULTIPLE and PAINFUL ulcers similar to that of **Herpes Simplex Virus** (**HSV**). **To differentiate** → Viral Culture (obtained from the ulcer base) or PCR "better".

Key 34

A patient who has maculopapular rash in his palms and trunk for the past 9 days. He also still has mouth ulcers. There was a painless penile ulcer that has healed for the past one week. What is the most appropriate investigation?

A) Swab the rash for microscopy and culture.

B) Serology for syphilis.

C) Swab of the mouth ulcers for dark field microscopy.

D) **Swab of the mouth ulcer for PCR**.

E) Treponema specific and non-specific antibodies.

√ Swabs of oral lesions cannot be tested under dark microscopy.

√ They can be tested by PCR.

√ If the penile ulcer has not healed yet → swab it for dark microscopy.

√ The second-best answer here → Serology for syphilis. (In case D was not given).

◙ Syphilis (treponema palladium) Investigations in Short

(Commonly Asked)

√ **If the penile ulcer is still present**

→ Swab the penile ulcer for Dark field microscopy (if in Genitourinary clinic)

or swab the penile ulcer for PCR (if the patient is in a GP clinic).

√ **If the penile ulcer has healed but the mouth ulcers are present**

→ Swab of the mouth ulcers for PCR.

Bear in in mind that swabs of oral lesion cannot be tested under dark field microscopy. If there no (swab of oral ulcers for PCR) in the options, pick syphilis serology.

√ **If both penile and mouth ulcers have healed**

→ Serology for syphilis.

Look at the following scenario and see the **difference in the (options)** only:

A patient who has maculopapular rash in his palms and trunk for the past 9 days. He also still has mouth ulcers. There was a painless penile ulcer that has healed for the past one week. What is the most appropriate investigation?

A) Swab the rash for microscopy and culture.

B) Serology for syphilis.

C) Swab of the mouth ulcers for dark field microscopy.

D) PCR of antigen in blood.

	E) Treponema specific and non-specific antibodies. Do not get fooled and pick ©: mouth lesion swab cannot be tested under dark microscopy.
Key 35	**A 33-year-old sexually active female presents with a non-malodorous vaginal discharge, itchiness, and soreness. Speculum examination shows vaginal erythema and white thick discharge.** • **The most likely diagnosis →** **Vaginal candidiasis (vaginal thrush)**. • **The most appropriate treatment →** **Topical clotrimazole**. **(Be careful! Topical not oral – Clotrimazole not metronidazole).** **Important Vaginal Infections DDx** ♣ **White Thick** discharge, non-offensive discharge → Vaginal candidiasis (Vaginal Thrush) = (vulvovaginal candidiasis) (Candida albicans). → Topical clotrimazole (antifungal). ♣ **Yellow-greenish** offensive discharge + vaginal **itching** ± **Strawberry** Cervix ± pH > 4.5 ± **Vulvovaginitis**

	→ Trichomonas Vaginalis (Trichomoniasis). → Oral metronidazole. ♣ **Offensive** discharge **Without itching** ± **fishy** smell ± pH > 4.5 → Bacterial Vaginosis (Gardnerella Vaginalis). → Oral metronidazole.
Key 36	**A 29-year-old woman presents with 2-week history of lower abdominal pain, dyspareunia (painful intercourse), and a noticeable increase in vaginal discharge. She is 2 months pregnant. She has a known allergy to cephalosporins. On examination, the following are noticed: Her vitals are stable, there is lower abdominal tenderness, and yellowish vaginal discharge. There is no cervical motion tenderness. What is the most appropriate antibiotic to prescribe to this patient?** → **Azithromycin.** This is likely a case of lower genital tract infection or pelvic inflammatory disease (mostly chlamydia): **Rx of Chlamydia:** 1st line for chlamydia → Doxycycline. (contraindicated during pregnancy **X**). 2nd line → Azithromycin. (safe during pregnancy **√**).

	Important Notes: • In pregnancy → avoid doxycycline, ciprofloxacin, and ofloxacin. (X) • On the other hand, → **Azithromycin** is safe in pregnancy. • She is allergic to cephalosporins (eg, cefalexin, ceftriaxone). • Co-amoxiclav (amoxicillin + Clavulanic acid) → safe in pregnancy. However, it is not the first choice for pelvic inflammatory disease or lower genital tract infections. Also, although amoxicillin (penicillin) is not a cephalosporin, there is a structural similarity between both classes, which makes an allergy reaction possible.
Key 37	A 30-year-old woman comes to the GP with a 3-day history of painful sores on her genital area. She reports that the lesions are small, numerous, and tender to touch. She also mentions experiencing a mild fever and general fatigue. Her sexual history includes recent unprotected intercourse with a new partner about three weeks ago. There is no record of similar occurrences in her past. On examination, several small, painful, shallow ulcers with a red base are observed in the vulval region. What is the most suitable investigation for this case? A) Mid-stream urine culture. B) High vaginal swab. C) VDRL testing.

D) Serology for herpes simplex virus.

E) Viral swab for herpes simplex virus.

The correct answer is → **E) Viral swab for herpes simplex virus**.

Here's why:

• The patient's presentation of multiple small, painful ulcers, fever, and recent sexual contact is highly suggestive of **genital herpes**, likely caused by the **herpes simplex virus** (**HSV**).

• The most appropriate test in this situation is a **viral swab**, which can be sent for either **PCR** **or** **culture**.

• Both PCR and viral culture are highly effective in diagnosing active HSV infection by detecting the virus directly from the ulcer.

Other options:

A) **Mid-stream urine culture**: This is used for diagnosing urinary tract infections, which do not present with genital sores. It is not appropriate for this patient's symptoms.

B) **High vaginal swab**: This test is used for investigating conditions such as bacterial vaginosis or candidiasis, which do not typically cause painful genital ulcers.

C) **VDRL testing**: This test screens for syphilis, which can cause genital ulcers. However, syphilitic chancres are typically painless, making it less likely in this scenario.

D) **Serology for herpes simplex virus**: Serology detects antibodies to HSV but cannot differentiate between past and current infections. It is not as useful as a viral swab in confirming an active infection during an acute outbreak.

In summary, the best test for diagnosing active genital herpes is a **viral swab**, which can be tested via **PCR or culture** to confirm the presence of the herpes simplex virus.

Investigations of HSV (Herpes Simplex Virus): "*Important*"

√ **First Line → NAAT testing (including PCR):**

- NAAT, which includes PCR, is the gold standard for detecting HSV. It is superior to viral culture for sensitivity and accuracy.

	√ **Other tests → Viral culture + DNA detection using PCR (Polymerase Chain Reaction):** • Viral culture is less sensitive than NAAT/PCR but may still be used where NAAT is unavailable. The sample collection method for both is a **viral swab** from the lesion. So, in the exam: NAAT → PCR → Culture (Method of collection: Swab). √ **If Negative and the ulcers are recurrent/atypical? → Anti-HSV antibody:** • **Serology** can detect past exposure to HSV (types 1 and 2) but is not useful for diagnosing acute infections. It may help in cases of atypical or recurrent presentations when swabs are negative. ◙ **Rx of HSV → oral Aciclovir.**